

Mission Database: Manage the Field Agents (Python Version)

STORY

You work for a secret military unit called Eagle Eye. You are building a tool to manage field agent data using Python and MySQL. Each agent has a code name, real name, current location, status, and number of missions completed.

OBJECTIVES

Use MySQL script (SQL file) which contains the command to build the agents schema (given).

DATABASE STRUCTURE

Database name: eagleEyeDB

Table: agents

Columns:

- id (INT, AUTO_INCREMENT, PRIMARY KEY)
- codeName (VARCHAR)
- realName (VARCHAR)
- location (VARCHAR)
- status (VARCHAR) - values: "Active", "Injured", "Missing", "Retired"
- missionsCompleted (INT)

Instructions:

1. Build a Python class to represent an agent (model)
 - a. It should implement the attributes
 - b. It should include the `__str__` function.
2. Create a Data Access Layer (DAL) class for database interaction
 - a. Handle MySql connection.
 - b. Implement CRUD operations for agents.
3. Write a main program to test the functionality
 - a. Add a well defined textual menu.

PROJECT STRUCTURE

- models/
 - agent.py - defines the Agent class
- dal/
 - agent_dal.py - handles MySQL operations with Agent data , handles database connection
- main.py - test program for adding, viewing, updating, and deleting agents

CHECKLIST

- [x] MySQL DB and table created
- [x] Agent class with properties
- [x] DAL with all required methods
- [x] Parameterized queries used
- [x] Connection to MySQL tested
- [x] App tested with sample data